

- Prohibit the use of gasoline-powered engines or tools in poorly ventilated areas.
- Provide personal CO monitors with audible alarms if potential exposure to CO exists.
- Test air regularly in areas where CO may be present, including confined spaces. (See 29 CFR 1910.146.)
- Install CO monitors with audible alarms.
- Use a full-facepiece pressure-demand self-contained breathing apparatus (SCBA) certified by the National Institute for Occupational Safety and Health (NIOSH), or a combination full-facepiece pressure-demand supplied-air respirator with auxiliary self-contained air supply in areas with high CO concentrations, i.e., those immediately dangerous to life and health atmospheres. (See 29 CFR 1910.134.)
- Use respirators with appropriate canisters for short periods under certain circumstances where CO levels are not exceedingly high.
- Educate workers about the sources and conditions that may result in CO poisoning as well as the symptoms and control of CO exposure.
- Report any situation to your employer that might cause CO to accumulate.
- Be alert to ventilation problems—especially in enclosed areas where gases of burning fuels may be released.
- Report promptly complaints of dizziness, drowsiness or nausea.
- Avoid overexertion if you suspect CO poisoning and leave the contaminated area.

Carboxyhemoglobin (COHb) levels and related health effects ^a	
% COHb in blood	Effects Associated with this COHb Level
80	Death
60	Loss of consciousness; death if exposure continues
40	Confusion; collapse on exercise
30	Headache; fatigue; impaired judgment
7-20	Statistically significant decreased maximal oxygen consumption during strenuous exercise in healthy young men ^b
5-17	Statistically significant diminution of visual perception, manual dexterity, ability to learn, or performance in complex sensorimotor tasks (such as driving)
5-5.5	Statistically significant decreased maximal oxygen consumption and exercise time during strenuous exercise in young healthy men
Below 5 to CO	No statistically significant vigilance decrements after exposure
2.9-4.5	Statistically significant decreased exercise capacity (i.e., shortened duration of exercise before onset of pain) in patients with angina pectoris and increased duration of angina attacks
2.3-4.3	Statistically significant decreased (about 3-7 percent) work time to exhaustion in exercising healthy men

Source: a. U.S. EPA (1979); b. U.S. EPA (1985)

- Tell your doctor that you may have been exposed to CO if you get sick.
- Avoid the use of gas-powered engines, such as those in powered washers as well as heaters and forklifts, while working in enclosed spaces.

Rights of Employees:

If employees experience dizziness, nausea or headaches on the job while using or in proximity to petroleum powered equipment, they may be experiencing symptoms of overexposure to carbon monoxide.

Employers are required to provide safe and healthy working conditions free of recognized hazards that cause or are likely to cause serious physical harm, serious injury or death. Employees who believe that working conditions are unsafe can file a complaint by calling 1-800-625-2267 or by visiting the N.C. Department of Labor website (www.nclabor.com).

Information Sources:

1. National Institute of Occupational Safety and Health. "ALERT: Preventing Carbon Monoxide Poisoning from Small Gasoline-Powered Engines and Tools," DHHS (NIOSH) Publication No. 96-118.
2. U.S. Environmental Protection Agency. "Indoor Air Pollution: An Introduction for Health Professionals," p. 9. EPA 402-R-94-007, 1994.
3. National Institute of Occupational Safety and Health. "NIOSH Pocket Guide to Chemical Hazards," p. 54. DHHS (NIOSH) Publication No. 2005-149.
4. 29 Code of Federal Regulations Part 1910, Section 1000, Table Z-1.
5. 29 Code of Federal Regulations Part 1926, Section 55, Appendix A.
6. Occupational Safety and Health Administration, "Carbon Monoxide Poisoning," OSHA Fact Sheet, 2002.

For more information concerning education, training and interpretations of occupational safety and health standards contact:

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